



## Conference Program, March 1, 2017

### Opening Ceremony 16:00

Introductory words by V. E. Fortov, V. P. Efremov, A. P. Savintsev, K. V. Khishchenko

Chairman

*Prof. G. V. Shpatakovskaya*

16:15 Accelerators for high energy density physics (plenary)  
*Hoffmann Dieter H.H. (TUD, Darmstadt, Germany), Sharkov B. Yu., Bagnoud V., Blazevic A., Kühl T., Neff S., Neumayer P., Rosmej O. N., Varentsov D., Weyrich K.*

16:45  **CONFERENCE PHOTO (OUTSIDE)**



**COFFEE-BREAK**

Chairman

*Prof. A. A. Golubev*

17:15 Advanced methods of electron acceleration to high energies (plenary)  
*Andreev Nikolay (JIHT RAS, Moscow, Russia)*

17:45 Generation of high power terahertz pulses and applications  
*Agranat M. B., Chefonov O., Ovchinnikov A., Sitnikov Dmitry Sergeevich (JIHT RAS, Moscow, Russia), Fortov V. E.*

18:00 Expansion of multilayer target heated by short pulse with large penetration depth  
*Khokhlov Victor Alexandrovich (ITP RAS, Chernogolovka, Russia), Zhakhovsky V. V., Inogamov N. A.*

18:15 Formation of foamed structure in aluminum and iron melts at high-rate tension  
*Mayer P. N., Mayer Alexander Evgenievich (CSU, Chelyabinsk, Russia)*

18:30 Finite-difference time-domain simulation of the interaction between ultrashort laser pulses and metal nanoparticles  
*Nikolskii Vsevolod (HSE, Moscow, Russia), Stegailov V. V.*

18:45 Trajectory control of small rotating projectiles by laser discharges  
*Starikovskiy Andrey (PU, Princeton, United States), Limbach C., Miles R.*

19:00 Diagnostic of plasmas created in relativistic laser matter interaction at high laser contrast  
*Rosmej Olga Nikolaevna (GSI, Darmstadt, Germany), Schoenlein A., Zaechter S., Adra C., Khaghani D., Samsonova J., Hoffmann A., Hoefner S., Kartashov D., Kaluza M., Spielmann C., Pugachev L. P., Andreev N. E., Uschmann I.*

19:15 High- $n$  hollow ion emission from Si ions pumped by ultraintense x-rays from relativistic laser plasma  
*Pikuz Sergey Alekseyevich (JIHT RAS, Moscow, Russia), Colgan J., Faenov A. Ya., Tubman E., Butler N. M. H., Abdallah Jr J., Dance R. J., Pikuz T. A., Skobelev I. Yu., Alkhimova M. A., Booth N., Green J., Gregory C., Andreev A., Loetzsch R., Uschmann I., Zhidkov A., Kodama R., McKenna P., Woolsey N.*

19:30 Powerful x-ray radiation of a plasma generated during head-on collisions of high-energy plasma flows  
*Gavrilov V. V., Eskov A. G., Zhitlukhin A. M., Kochnev D. M., Pikuz S. A., Poznyak I. M., Ryazantsev Sergey Nikolaevich (JIHT RAS, Moscow, Russia), Skobelev I. Yu., Toporkov D. A., Umrikhin N. M.*

19:45 X-rays diagnostics of the hot electrons distribution in the intense laser interaction with metal targets  
*Kostenko Oleg Fedotovitch (JIHT RAS, Moscow, Russia), Andreev N. E., Rosmej O. N., Schönlein A.*

20:00  **SUPPER**



## Conference Program, March 2, 2017

### Oral Session 16:00

Chairman

Prof. V. V. Golub

- 16:00 New data on the kinetics and governing factors of the spall fracture of metals  
*Kanel Gennady (JIHT RAS, Moscow, Russia), Razorenov S. V., Garkushin G. V., Savinykh A. S.*
- 16:15 Using of W–Cu-alloys for shock synthesis experiments: A pathway to the 2 Mbar boundary?  
*Schlothauer Thomas (TUBAF, IIC, Freiberg, Germany), Schimpf C., Heide G., Kroke E.*
- 16:30 Flyer acceleration by magnetic pressure on Angara-5-1 installation  
*Grabovski E. V., Branitskii A. V., Frolov I. N., Gribov A. N., Gritsuk A. N., Mitrofanov K. N., Laukhin Ya. N., Oleynik Georgy Mikhailovich (SRC RF TRINITI, Troitsk, Russia), Sasorov P. V., Shishlov A. O., Tkachenko S. I.*
- 16:45 Diagnostics of carbon encapsulated iron nanoparticles by the pulse laser heating  
*Eremin A. V., Gurentsov E. V., Musikhin Stanislav Alexeevich (JIHT RAS, Moscow, Russia)*
- 17:00 Numerical analysis of nanoparticles formation during femtosecond laser ablation of aluminum  
*Fokin Vladimir Borisovich (JIHT RAS, Moscow, Russia), Levashov P. R., Povarnitsyn M. E.*

17:15



**COFFEE-BREAK**

Chairman

Prof. A. V. Eremin

- 17:30 Diagnostics of high-speed processes (plenary)  
*Petrov Dmitry Vitaljevich (FSUE RFNC-VNIITF, Snezhinsk, Russia)*
- 18:00 Detection ejection of particles from the roughness of the shock-loaded metals with using synchrotron radiation  
*Ten Konstantin Alekseevich (LIH SB RAS, Novosibirsk, Russia), Pruel E. R., Kashkarov A. O., Rubtsov I. A., Antipov M. V., Georgievskaya A. B., Mikhaylov A. L., Spirin I. A., Zhulanov V. V., Shekhtman L. I., Tolochko B. P.*
- 18:15 On the calculation of dynamic and heat loads on a 3D body in a hypersonic flow  
*Bocharov Aleksey (JIHT RAS, Moscow, Russia), Bityurin V. A., Golovin N. N., Evstigneev N. M., Fortov V. E., Petrovskiy V. P., Ryabkov O. I., Teplyakov I. O., Shustov A. A., Solomonov Yu. S.*
- 18:30 Physical and computational modeling of injecting liquid interaction with high-speed air cross-flow  
*Arefyev Konstantin (CIAM, Moscow, Russia), Voronetskiy A. V., Prokhorov A. N., Saveliev A. S.*
- 18:45 Study of the burning of hydrocarbon fuels in supersonic air flow  
*Degtiar V. G., Khlybov V. I., Grakhov Yu. V., Sherstnev Andrey Yevgenievich (Makeyev GRTs, Miass, Russia)*
- 19:00 Influence of mixture composition and ignition timing on efficiency of spark ignition engine running on hydrogen-based mixtures  
*Zaichenko V. M., Tsyplakov A. I., Ivanov M. F., Kiverin A. D., Smygalina Anna Evgenievna (JIHT RAS, Moscow, Russia)*
- 19:15 Rayleigh–Taylor instability in the process of high-speed collision of metal plates  
*Fortova S. V., Shepelev Vadim Vladimirovich (ICAD RAS, Moscow, Russia), Utkin P. S.*
- 19:30 Numerical modelling interaction of shells and the aircraft engine with concrete protective designs  
*Radchenko P. A., Batuev S. P., Radchenko Andrey Vasilievich (TSUAB, Tomsk, Russia)*
- 19:45 Interaction of the stream of the striking elements with barriers and cumulative ammunition  
*Radchenko Pavel Andreevich (TSUAB, Tomsk, Russia), Batuev S. P., Radchenko A. V.*

20:00



**SUPPER**

21:00–

**POSTER SESSION MARCH 2**

23:00

## Conference Program, March 3, 2017

### Oral Session 16:00

Chairman

Acad. E. E. Son

- 16:00 Active Brownian motion and structures of grains in strongly coupled dusty plasma (plenary)  
*Petrov Oleg Fedorovich (JIHT RAS, Moscow, Russia), Statsenko K. B., Vasiliev M. M.*
- 16:30 Dynamical entropy and fractal dimension of laser-driven Brownian motion in strongly-coupled dust Coulomb structures  
*Koss Xeniya Georgievna (JIHT RAS, Moscow, Russia), Petrov O. F., Statsenko K. B., Alekseevskaya A. A., Myasnikov M. I., Vasiliev M. M.*
- 16:45 Optical and transport properties in partially ionized dense plasma  
*Reinholz Heidi Ella Mechthild (UR, Rostock, Germany), Lin C., Mintsev V. B., Omarbakiyeva Y. A., Röpke G., Veysman M. E., Zaporozhets Yu. B.*
- 17:00 Atomistic simulation of hotspots in model energetic material  
*Murzov Semen Alexandrovich (VNIIA(S), Moscow, Russia), Zhakhovsky V. V.*

17:15



**COFFEE-BREAK**

Chairman

Acad. O. F. Petrov

- 17:30 Universal energy distribution with power fluxes in spectra (plenary)  
*Son Eduard Evgenievich (JIHT RAS, Moscow, Russia)*
- 18:00 About electron binding energies dependence on nuclear charge and ionisation state in free ions  
*Shpatakovskaya Galina Vasilievna (KIAM RAS, Moscow, Russia)*
- 18:15 Electron core ionization in compressed alkali and alkali–earth metals  
*Degtyareva Valentina Feognievna (ISSP RAS, Chernogolovka, Russia)*
- 18:30 High-temperature chemistry in low-temperature environment  
*Gordon Eugene Borisovich (IPCP RAS, Chernogolovka, Russia)*
- 18:45 To Birch law for liquid metals  
*Lomonosov Igor (IPCP RAS, Chernogolovka, Russia)*
- 19:00 A model of wide-range equations of state for matter at high energy densities  
*Khishchenko Konstantin Vladimirovich (JIHT RAS, Moscow, Russia)*
- 19:15 Applications for the equation of state based on the Thomas–Fermi model with corrections  
*Dyachkov Sergey Aleksandrovich (VNIIA(S), Moscow, Russia), Levashov P. R., Minakov D. V.*
- 19:30 Temperature anomalies of shock waves and adiabatic flows in hot nuclear matter  
*Konyukhov Andrey Victorovich (JIHT RAS, Moscow, Russia), Iosilevskiy I. L., Levashov P. R., Likhachev A. P.*
- 19:45 Cavitation bubble dynamics in viscous liquid and fusion  
*Khokonov Azamat Khazret-Alievich (KBSU, Nalchik, Russia)*
- 20:00 Band structure and transparency of the two-dimensional photonic crystal with a central defect  
*Bzheumikhov K. Z., Margushev Z. Ch., Savoiskii Yuri Vladimirovich (KBSC RAS, Nalchik, Russia), Khokonov A. Kh.*

20:15



**SUPPER**

21:00–

**POSTER SESSION**

23:00



## Conference Program, March 4, 2017

### Oral Session 15:00

Chairman

Prof. I. L. Iosilevskiy

- 15:00 Laser interferometer gravitational wave observatory: Machine review and contribution of the Institute of Applied Physics RAS (plenary)  
*Khazanov Efim Arkadievich (IAP RAS, Nizhny Novgorod, Russia)*
- 15:30 Specific electrical conductivity of sapphire at shock compression up to 600 GPa  
*Nikolaev Dmirtiy Nikolaevich (IPCP RAS, Chernogolovka, Russia), Ternovoi V. Ya., Shutov A. V.*
- 15:45 Combined laser ultrasonics, laser heating and Raman scattering in diamond anvil cell system  
*Zinin Pavel Valentinovich (STC UI RAS, Moscow, Russia), Prakapenka V. B., Burgess R., Odake S., Chigarev N., Sharma S. K., Kutuza I. B.*
- 16:00 Laser vaporization mass spectrometry of  $ZrC_x$  at temperatures up to 4400 K  
*Frolov Aleksander Michailovich (JIHT RAS, Moscow, Russia), Sheindlin M. A.*

16:15  **COFFEE-BREAK**

Chairman

Prof. I. V. Lomonosov

- 16:30 Anomalous charge profiles in thermoelectrostatics and phase transitions in Coulomb models (plenary)  
*Iosilevskiy Igor L'vovich (JIHT RAS, Moscow, Russia), Chigvintsev A. Yu.*
- 17:00 Calculation of entropy in classical and first-principles molecular dynamics simulation  
*Minakov Dmitry Vyacheslavovich (JIHT RAS, Moscow, Russia), Levashov P. R.*
- 17:15 Investigation of structural and thermodynamic properties of Ni–Al  
*Karchevskaya Emma Stanislavovna (JIHT RAS, Moscow, Russia), Minakov D. V., Levashov P. R.*
- 17:30 Revealing free-like electrons in density functional theory models of warm dense matter  
*Stegailov Vladimir (JIHT RAS, Moscow, Russia), Zhilyaev P. A.*
- 17:45 Ion-correlative model of dense mixture plasmas: Structural and thermodynamical properties  
*Falkov Andrei Leonidovich (FSUE RFNC-VNIITF, Snezhinsk, Russia), Oveckin A. A., Loboda P. A.*
- 18:00–18:15 Electrical conductivity of warm dense matter: Electron jellium—new gas-plasma component  
*Khomkin A. L., Shumikhin Aleksey Sergeevich (JIHT RAS, Moscow, Russia)*

19:30–23:00  **BANQUET**



## Conference Program, March 5, 2017

### Oral Session 16:00

Chairman

Prof. V. B. Mintsev

- 16:00 Brightness temperature and specific conductivity of multiple shocked initially gaseous protium and deuterium up to 0.4 TPa  
*Ternovoi Vladimir Yakovlevich (IPCP RAS, Chernogolovka, Russia), Nikolaev D. N., Pyalling A. A., Shutov A. V.*
- 16:15 Heat transfer under high-power heating of liquids: an experience of monitoring of oils  
*Volosnikov Dmitriy Vladimirovich (ITP UB RAS, Ekaterinburg, Russia), Povolotskiy I. I., Skripov P. V.*
- 16:30 Experimental investigation of thermal expansion of graphite at high temperatures  
*Senchenko V. N., Belikov Roman Sergeevich (JIHT RAS, Moscow, Russia)*
- 16:45 Atomistic simulations of phase and structure transitions and defects formation at swift heavy ion irradiation in uranium-molybdenum alloy  
*Kolotova Lada Nikolaevna (JIHT RAS, Moscow, Russia), Starikov S. V.*
- 17:00 The online database for thermodynamic properties of individual substances IVTANTHERMO-Online  
*Belov G. V., Dyachkov S. A., Levashov P. R., Lomonosov I. V., Minakov D. V., Morozov Igor Vladimirovich (JIHT RAS, Moscow, Russia), Smirnov V. N.*
- 17:15 Molecules ionization at phase transition in warm dense hydrogen  
*Norman Genri Edgarovich (HSE, Moscow, Russia), Saitov I. M.*

17:30



**COFFEE-BREAK**

Chairman

Prof. L. G. Dyachkov

- 17:45 New opportunities for studies of ultracold Rydberg atoms with many-photon coherent spectroscopy  
*Zelener Boris Borisovich (JIHT RAS, Moscow, Russia), Saakyan S. A., Sautenkov V. A., Vilshanskaya E. V., Manykin E. A., Zelener B. V., Fortov V. E.*
- 18:00 Approach to produce antihydrogen atoms with low kinetic energy in magnetic traps  
*Bobrov Andrei Alexandrovich (JIHT RAS, Moscow, Russia), Bronin S. Ya., Zelener B. B., Zelener B. V.*
- 18:15 Electric characteristic measurements in high-current high-pressure discharge with current amplitude of 590–1200 kA by magnetic probe  
*Bogomaz A. A., Pinchuk Mikhail Ernestovich (IEE RAS, Saint-Petersburg, Russia), Budin A. V., Leks A. G., Leontev V. V., Pozubenkov A. A.*
- 18:30 On DD and  $p + {}^{11}\text{B}$  “burning” at inertial electrostatic confinement fusion scheme based on nano-second vacuum discharge: Experiment and particle-in-cell simulations  
*Kurilenkov Yuri Konstantinovich (JIHT RAS, Moscow, Russia), Tarakanov V. P., Gus’kov S. Yu., Oginov A. V., Samoylov I. S., Karpukhin V. T.*
- 18:45 On the parameters of the diffused vacuum arc with cerium oxide hot cathode  
*Amirov R. Kh., Gavrikov A. V., Liziakin G. D., Polistchook V. P., Pershin D. A., Samoylov I. S., Smirnov V. P., Usmanov Ravil Anatolievich (JIHT RAS, Moscow, Russia), Vorona N. A., Yartsev I. M.*


19:00



**SUPPER**

Chairman

Dr. K. V. Khishchenko

- 20:00 The methods investigation of dusty plasma environment near lunar surface  
*Dolnikov Gennady Gennadievich (IKI RAS, Moscow, Russia), Zakharov A. V., Kuznetshov I. A., Lyash A. N., Popel S. I., Bednjakov S. A.*
- 20:15 Modification and destruction of the coulomb cluster in a cusp magnetic trap at gradual increase its charge  
*Dyachkov Lev Gavriilovich (JIHT RAS, Moscow, Russia), Petrov O. F., Vasiliev M. M., Myasnikov M. I., Fortov V. E., Ramazanov T. S., Dzhumagulova K. N., Gabdullin M. T., Dosbolayev M. K., Ussenov Y. A., Moldabekov Zh. A., Savin S. F., Musabaev T. A., Zhantayev Zh. Sh., Aimbetov A. A.*
- 20:30 Macroions non-linear screening in complex plasma  
*Martynova Inna Aleksandrovna (JIHT RAS, Moscow, Russia), Iosilevskiy I. L., Shagayda A. A.*
- 20:45 Screening dust particle charge in an  $e$ -beam created humid air plasma  
*Filippov Anatoly Vasilievich (SRC RF TRINITI, Troitsk, Russia), Derbenev I. N., Kurkin S. A.*
- 21:00 Investigation of the excited state population density of electric propulsion thruster plasma in 3D by laser induced fluorescence  
*Krivoruchko Dariya Dmitrievna (MIPT, Dolgoprudny, Russia), Skrylev A. V., Skorokhod E. P., Gorshkov O. A.*
- 21:15 Spatial-temporal diagnostics of the “plasma jet–surface of heat resistant material” system  
*Sargsyan M. A., Chinnov V. F., Gadzhiev M. Kh., Khromov M. A., Kavyrshin D. I., Chistolinov Andrey Vladimirovich (JIHT RAS, Moscow, Russia)*
- 21:30 **CLOSING CEREMONY**  
Concluding words by V. P. Efremov, K. V. Khishchenko, A. P. Savintsev
- 21:45– **COFFEE-END**  
22:00